REMARKS

Claims 1-8 are pending. Claims 1 and 5 are the only independent claims. Claim 2 has been amended to correct a typographical error, without narrowing its scope.

Claims 1-8 were rejected under 35 U.S.C. § 103 over U.S. Patent 6,493,379 (Tanaka) in view of U.S. Patent 6,064,338 (Kobayakawa et al.) and further in view of U.S. Patent Publication No. 2001/0019952 (Ishida). Applicant traverses and submits that the independent claims are patentable over the cited references for at least the following reasons.

Independent claim 1 recites, inter alia, a first step of adaptively updating antenna weight based on minimum mean squared error (MMSE) control according to signals received by the respective antenna elements and an error signal obtained from the desired signal corrected based on the transmission channel estimation, and a second step of correcting the antenna weight obtained in the first step using a direction vector to maintain a correlation between the antenna weight and the direction vector constant.

It was conceded in the Office Action that neither Tanaka nor Kobayashi teach the recited constraint process. The Office now appears to rely on the teachings of Ishida as allegedly teaching the first step of adaptively updating antenna weight based on minimum mean squared error (MMSE) control according to signals received by the respective antenna elements and an error signal obtained from the desired signal corrected based on the transmission channel estimation. Applicant submits that there would have been no reason why one of ordinary skill in the art would have mixed and matched the various teachings of the three cited references in the manner proposed by the Examiner. For this reason, the rejection is an improper hindsight reconstruction of the Applicant's claims.

As was pointed out in the previous response, Kobayashi shows a method for calculating an array weight directly using a directional constraint vector and a covariance matrix, which is shown in Figure 8B and Step 206 in Figure 9. This method corresponds to the known directional constraint minimum power (DCMP) algorithm. On the other hand, the independent claims utilize adaptive update algorithms, in which directional constraint processing is performed on an array weight calculated by minimum mean squared error (MMSE) control.

In the most recent Office Action, the position was taken that Ishida teaches adaptively updating antenna weight based on the MMSE control method and that it would have been obvious to change the control method of Kobayashi to that of Ishida to meet the limitations of claim 1. Applicant disagrees.

First, it is not enough that various elements of the claims might be discussed in varying contexts in the prior art. There must be some articulated reason why a person of ordinary skill in the art would have combined the prior art in the manner proposed in the rejection. In this case, no reason was provided as to why someone of ordinary skill in the art, at the time the invention was made, would have changed the principle of operation of the Kobayakawa reference to that of Ishida, except to meet the claim limitations. The reason set forth in the Office Action, "in order for the base station to correctly separate and extract a signal sent from each mobile base station" is not a reason to change Kobayakawa in the proposed manner, at least because Kobayakawa already performs this function, except in a different manner.

In view of the fact that no legally significant reason has been set forth for changing the principle of operation of the Kobayakawa reference, no prima facie case of obviousness has been set forth against claim 1.

For at least this reason, independent claim 1 is believed clearly patentable over the cited references. Independent claim 5 recites a similar feature and is believed patentable for at least the reasons discussed above in connection with independent claim 1.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

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Respectfully submitted,

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